REMARKS

Reconsideration and allowance are respectfully requested.

An information disclosure statement is filed concurrently with this response. Consideration and acknowledgment are requested.

The Examiner makes several claim objections and suggestions for overcoming same. The Examiner's suggestions are adopted. Withdrawal of the claim objections is requested.

Non-means plus function apparatus claims 11-16 are added.

Claims 1, 5, 6, and 10 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable based on alleged AAPA in view of Patenaude. This rejection is respectfully traversed.

The claims are directed to efficiently transferring Ethernet frames over PDH and SDH with minimal mapping and demapping operations thereby providing a relatively low degree of complexity and cost as compared to present day solutions. For example, GFP frames can be transported via SDH without being unpacked at the connection between the SDH-network and the En-carrier. This provides savings both in equipment and work. Indeed, the Ethernet frames, having been mapped into GFP frames, can be transported the entire path without any additional packing/unpacking. By introducing a GFP mapping early in the communication link, the communication is simplified using GFP end-to-end requiring only two, standardized mapping/demapping operations. The simplified communication link can be described as follows:

[LANl using Ethernet protocol]→GFP mapping→[PDH network using Ethernet/GFP/PDH protocols]→[SDH network using Ethernet/GFP/SDH protocols]→[PDH

network using Ethernet/GFP/PDH protocols]→GFP demapping→[LAN2 using Ethernet protocol]. Alternatively, a simplified communication link can be described as follows:

[LANl using Ethernet protocol]→GFP mapping→[PDH network using Ethernet/GFP/PDH protocols]→[SDH network using Ethernet/GFP/SDH protocols]→ GFP demapping→[LAN2 using Ethernet protocol].

Many of the claim features are admitted missing from the AAPA. Patenaude describes a multi-service mapper framer device to support interconnection of synchronous optical networks using the SONET and SDH standards to Ethernet packet networks. The Examiner relies on Patenaude to teach "mapping/demapping via GFP." See pages 2 and 6 of the office action. The Examiner concludes: "it would have been obvious to one of ordinary skill in the art at the time of the inventor to modify AAPA to" include all of the features recited in claim 1 "as suggested by Patenaude." The reason advanced for this substantial modification of the AAPA is to provide "one uniform mechanism to adapt any payload type to any transport media (Hussain pg. 10, reference listed in conclusion)." Page 6 of the office action.

Even if Patenaude maps Ethernet frames using GFP, Patenaude fails to teach that by introducing GFP mapping early in the communications link, and specifically as Ethernet over GFP over PDH, the communication may be significantly simplified using GFP end-to-end using only two mapping/demapping operations as discussed above. Instead, Patenaude requires mandatory mapping of E1/T1 (see 250 in Figure 2) and E3/T3 (see 260 in Figure 2) through a synchronous transport signal (STS) (i.e., SDH/Sonet frames) (see 280 in Figure 2) regardless of their content. This indicates that Ethernet frames via PPP, or potentially via GFP over PDH (E1/T1), are transported as E1s/T1s over an SDH/Sonet network in Patenaude. In contrast, the independent claims:

- map Ethernet frames from the first local area network onto a Plesiochronous Digital Hierarchy (PDH) data stream via a Generic Framing Procedure (GFP),
- transmit the mapped Ethernet frames via a first En-network to a Synchronous Digital Hierarchy (SDH)-level network,
- receive the transmission at the second local area network through the SDH-level network,
- demap the originally mapped Ethernet frames from the first local area network via the Generic Framing Procedure, and
- transmit the demapped frames into the second local area network.

As a result, the E1/T1 frames are terminated and GFP frames are passed at the boundary between the PDH and SDH networks, and the only required mapping/demapping procedure for the Ethernet frames is a GFP mapping/demapping procedure carried out between the LANs and both PDH/SDH networks. In other words, the claimed technology reduces dramatically the number of mapping and demapping operations. This distinction is emphasized in the independent claims. Claim 1 for example now recites: "wherein the Ethernet frames are transported the entire path from the first local area network to the second local area network without any additional mapping or demapping other than that performed in said mapping step and said demapping step." Similar language in apparatus format is included in the apparatus claims. Example support from the specification for this amendment is found at [0022] of the published application.

The Examiner's justifies modifying the AAPA in order to provide "one uniform mechanism to adapt any payload type to any transport media (Hussain pg. 10, reference listed in conclusion)." So the Examiner is really relying on three references to reject claims 1, 5, 6, and

10: alleged AAPA in view of Patenaude and Hussain. Traditionally, either the PDH frames are transported transparently via the SDH/Sonet network (a rather inefficient transport due to the large overhead), or the content of the PDH frames is demapped to Ethernet frames, and thereafter, remapped via GFP in the SDH/Sonet frame and network. The standard way of mapping Ethernet to PDH is to use a PPP (point to point protocol) or HDLC protocol. Hussain simply refers to the possibility of mapping PPP/HDLC into GFP (see page 9), avoiding the PDH frame overhead.

But the claims do more than this. By using GFP as the protocol for mapping Ethernet frames into PDH (nxE1), the same GFP frames may be maintained in both the PDH and SDH network, thereby reducing the number of mapping/demapping operations when two LANs are interconnected via a combination of PDH and SDH networks.

Neither Patenaude nor Hussain appreciate the issue or suggest improving transport efficiency and optimizing the interoperation of PDH and SDH network in the manner set forth in the claims.

The remaining claims stand rejected for obviousness based by including a fourth referen to Flavin. Flavin was distinguished in the last response and does not remedy the deficiencies with respect to the independent claims set forth above.

The application is in condition for allowance. An early notice to that effect is requested.

Respectfully submitted,

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